

AVIATION

The Oldest American Aeronautical Magazine

FEBRUARY 1, 1926

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A Naval Formation in Flight.

VOLUME
XX

SPECIAL FEATURES

NUMBER
5

THE SPAIN-ARGENTINA FLIGHT
MODERN AIRPORT HANGARS
HUFF DALAND ACTIVITIES

GARDNER PUBLISHING CO., INC.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK



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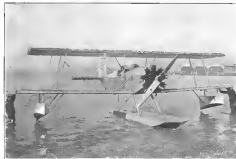
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The Spain-Argentina Flight

THE SPAIN-ARGENTINA flight, which was commenced under the leadership of Comde Benito Ferrer on Jan. 22, is one of the most notable long distance flight attempts yet undertaken. In brief, the flight is significant, since, with the exception of the hop from Noronha to Pernambuco, which is but 170 miles in length, all of the hops are at least 1,000 miles. Furthermore, the complete route is over water, from the start, off the coast of Spain, to Pernambuco, after which the route lies in the Atlantic. In spite of this, however, the Spaniards are undertaking the flight almost without any outside assistance save, with the exception of one crewer of the coast of Africa and a designer who will be stationed at Noronha, an assistance in the event of a forced landing at sea has been provided for. The plane, however, is of a type which is especially designed for seaborne work and may be expected to withstand the tests well.

The route being followed by the Spanish crew is almost identical with that followed by the Portuguese pilot, Captain Bernardino Gêdel and Hugo Costa, who left Lisbon for Pernambuco during April, 1925, in a biplane which, unfortunately, was severely damaged while being beached at St. Paul's Rock, one of the stopping points on the flight between Cape Verde Island and Fernando de Noronha. This flight was later continued with a new plane shipped to St. Paul's Rock.

The Spain to Argentina flight will, if successful, be the eighth crossing of the Atlantic Ocean by air, flights connecting the Americas with Europe having been made three times by ship and four times by airplane and seaplane. The British ship *R. 34* crossed the North Atlantic Ocean in both directions in 1919 while the *Los Angeles* flew, in 1920, from Philadelphia to Loughborough, also crossing the North Atlantic.

In the latter-day air field, the United States Navy seaplane NC-4 flew from New York to Lisbon via the Azores in 1919 and later in the same year the British *Vickers* plane spanned the ocean from Newfoundland to Iceland by air. The Portuguese flight across the South Atlantic and the Atlantic crossing of the world line contribute the third and fourth Atlantic flights. With the anticipated success of the present undertaking, yet another step will have been achieved in the direction of the permanent establishment of trans-Atlantic air transportation.

Aerial Battleships

THE FRENCH have, for five or six years, been conducting extensive experiments on two-engine airplanes. These wars, at first, little more successful than our own seaplane racing boats. However, the experimental work

has continued and, this year, has brought out several four-engine planes of very great interest. The early work done by the French firm as far back as 1921, was with the idea of developing a reliable passenger and transport plane. The work on multi-engine planes in general has been continued in France and has resulted in the production of the *Bombardier* *Bombardier*, described in the Jan. 4 issue of *Aviation*. This plane is a bomber with almost double the performance of any American bomber.

It is interesting to note, in this case, that comparatively little emphasis has been given to defense in the design of this plane. In the *Leotard* four-engine plane, which will be described in a forthcoming issue, the development has been further continued and a plane has been built which will actually be very difficult to shoot down with either machine gun fire or shell fragments. This has been accomplished by providing four engines, by having the pilot's cockpit armored and by having the structure of the airplane built in such a manner as to reduce the destruction of any member, such as a leg, capable of causing the collapse of the entire plane. The plane has a very powerful machine gun armament with a carefully worked out field of fire, and the advantages of this design that they are able to fight off pursuit planes and to withstand one flight of torpedo boats.

The large single-engine American bombers, which are now being developed, are excellent examples of their type but the use of the bomb which they can carry is only one-half that of the French bomber and they have nothing like the defensive power against pursuit planes, for they carry few machine guns, a smaller arm and have several blind areas from the gunner's standpoint. These other valuable points from which the plane could be attacked without possibility of defense. To secure their super bombers, the French are now developing a type of two-engine pursuit airplane which, though smaller in size, is as maneuverable as any American pursuit plane, carries such a powerful offensive armament that, with the superior gun fire, the type would be extremely dangerous to a pursuit group and would probably be able to break up a pursuit formation before the bombers could be reached. This work is still in a very experimental state, but a number of firms are actually building these types and there is foreboding a development of the type of airplane which will shift the center of military aviation development from auxiliary work with the Army and Navy, to independent work, having tremendous offensive power.

American aircraft designers are keenly alive to the possibilities of this line of development and we have plans for such development, but only on paper. Congress, as well as military and naval authorities, will have to be educated before steps in change of governmental association will be allowed to expand the time and money necessary for such developments.

The Spain to Argentina Flight

LEAVING this little port of Palos, Spain, at 9:00 a. m. on the morning of Jan. 22, Gen. Juan Perera, the Spanish aviator, together with his three companions, 1924. Ros de Abajo, Ricardo Duran and Modestiano Bion, commenced their projected flight across the South Atlantic ocean to Buenos Aires, escorted by 34 Spanish Army airplanes. The plane carried 400 lb. of baggage, three Spanish notables, the Presidents of North American republics.

The Route of the Flight

The favorable weather encouraged the fliers to leave earlier than was their original intention, a landing being planned to terminate the flight on Jan. 24. The route of the flight is as follows:

First—From Palos to Las Palmas, Canary Islands, 847 miles.

Second—From Las Palmas to Porto Praya, Cape Verde Islands, 1850 miles.

Third—From Porto Praya to Fernando de Noronha, off the Brazilian coast, 1532 miles.

Fourth—From Noronha to Pernambuco, 270 miles.

Fifth—From Pernambuco to Rio Janeiro, 1204 miles.

The first leg of the flight was carried out with perfect success, Las Palmas being reached at 5:05 p. m. on Jan. 23, the day of the start. This leg of the flight took 8 hr. to complete, since it must be remembered, Canary Islands time is one hour behind Spain time. This represents a speed of approximately 187 m. p. h., which is a very fair performance for the Duxair Wd airplane, the No. 100 Uke, which is being used. The plane is equipped with two Napier Lion engines of 480 hp. each.

The Spanish Government assisted in every way possible and allotted certain naval vessels to patrol the ocean along the Atlantic. The cutter *Don Felix de Leon* has been stationed at St. Paul Rocks, about two thirds of the way, between Cape Verde Islands and the South American coast. The destroyer *Alfonso* has been stationed at Fernando de Noronha with food

and gasoline supplies to assist the airplane should a landing upon the water be carried out.

The No. 100 Uke carried food on board for the crew staff.



The route of the Spain-Argentina flight

meat for a period of 10 days. A water distilling apparatus was also carried by means of which drinking water may be procured from sea water.



Right and Houston, near Rome

The most elaborate placed upon Wright airplanes to Florida has resulted in many cases of airplanes being used by manufacturers in delivering their goods to dealers in the southern coast state. The photo shows the loading of a shipment of women's wearing apparel onto a Carlin DH plane.

The Wright Apache Shipboard Fighter

A High Speed Pursuit Type with Air-Cooled Engine.

THE WRIGHT Apache shipboard plane is the latest airplane development of the Wright Aeronautical Corporation. Small, compact, and extremely maneuverable, it is especially suited to shipboard service with the fleet. Equipped with a single large fast and free winging float, it can be launched from the standard Navy catapult, while, fitted with landing wheels, it can take off from and land upon the decks of aircraft carriers.

The plane, which is of the single seat fighter class, embodies normal constructional features and represents sound engineering practice in design and in the choice of materials. Extensive work has been given to detail design with the result that the airplane is structurally very light. The fuselage structure and struts, the chassis struts, the fittings and external struts of the wings, the tail and the controls are constructed of chrome-nickel alloy steel, while the wing-plane struts are of aluminum alloy tubing. The tail and control surfaces are constructed with steel tubing spars and duralumin ribs. The wings, however, are constructed of wood, but 1 section wood spar being employed with plywood ribs, the whole structure being bonded with sound aged veneer and steel tubing.

The plane is at present equipped with a Wright Whirlwind 200 hp. engine and has been tested with this installation. It is intended, however, to equip the standard plane with the new Wright Sycamore (E-2000) air-cooled engine which develops 325-350 hp. The high performance obtained from the Apache in a long series of preliminary tests with the Whirlwind engine fitted, indicates a very high performance when fitted with the Sycamore engine in service.

Excellent Performance

During the test flights on a land plane with the Whirlwind engine, the high speed was 310 m. p. h., with a climb in ten minutes to 10,000 ft., and service ceiling of 25,000 ft. These figures were obtained while carrying a useful load of 700 lb., including the full weight of the military equipment. The spin is only 27 ft. 6 in. and the wings have a divided stagger, giving excellent vision for dog-fighting. The stalling speed is only 50 m. p. h., which is below the catapult requirement.

The first flight of the plane was made on Nov. 4, 1919 by P. H. Barker. On Nov. 15, 1920, Louis G. C. Charnquist, U. S. N., of the Bureau of Aeronautics, took the plane up for a

test flight. Later on the same day, he took it to Boston.

On the return from Boston, a straight ocean from New London to Marsh Field was flown, crossing Long Island Sound successfully. A few days later Lieutenant Charnquist flew the plane to Washington by way of Philadelphia. At Washington it was flown by ten officers of the Navy, Marine, and Coast Guard, each on Nov. 20, 1920, it was flown from Washington back to Marsh Field by Barker, without a stop. Since Nov. 20, 1920, the Apache has been making frequent flights for performance tests with official recording instruments. It was during the last climbing test that Barker was carried out over the sea after reaching an altitude above 20,000 ft., and finally landed near Plymouth, Mass., with his feet frozen but without damaging the plane. On this flight the first three-minute registered 18.4 sec. before zero, and an another flight the same day, the chronometer registered 20 sec. before zero, which facts may show the Whirlwind engine which functioned perfectly throughout the flights.

When the test flights are completed the machine will be equipped with the Sycamore engine and all metal construction floats fitted, after which it will be put through another series of flight tests.

At the moment of going to press, *AVIATION* is informed of the comparison out of the first preliminary tests of the Apache with the Wright Sycamore engine. In spite of the fact that the engine, which develops 325 hp. at maximum revolution of 2000 r. p. m., was used up to 1550 r. p. m., a speed of 310 m. p. h. was obtained. According to the power curve of the Wright Sycamore engine, 320 hp. is developed at 1750 r. p. m. Thus, it will be seen that an even greater speed may be expected from the Apache when the final trials are carried out and the engine is permitted to turn at its maximum revolution. The sea-borne speed of the plane with the Sycamore engine was less than 50 m. p. h., which indicates a speed margin for the Apache of at least 13. The performance tests here, however, included a climbing test as a result of which over 14,000 ft. was reached in the first minute. During these trials a full military load was carried.

The performance of the plane is extremely satisfactory since the Apache represents a new departure in American pursuit planes, in view of the air-cooled engine, which renders out only much subsequent trouble from cross currents but also their added resistance.



The Wright Apache equipped for preliminary tests with a Wright Whirlwind engine. This plane is now fitted with the Wright Sycamore engine.

Huff Daland Activities

New Factory at Bristol, Pa. Gives Promise of Large Production

SIX YEARS ago, the Huff Daland company occupied a single small plant in Ogdensburg, N. Y. With the increase of the company's airplane activities, they took over their second and third plant in Ogdensburg. During the early part of 1932, it was decided that the three separate plants were not only uneconomical, but too small for the progressive expansion of aircraft manufacture, as outlined by the officials of the company. Plans were, therefore, made and the first steps were taken to move from Ogdensburg to the Hermann Monckert Ship Building plant at Bristol, Pa., in July, 1932. By the late fall, they had moved their operations to this building.

A Spacious Plant

The new plant structure, including office and drafting rooms, covers an area of 40,000 sq. ft. The plant building is an open clear manufacturing floor 1,000 ft. long. Progressive and up-to-date plans have been laid for modern aircraft manufacture. At the far end of the building, the machine shop for machinery and forgings welding is located. The metal taking and sheet metal is supplied from a steel house whereas all completed parts are checked. Every sort of wood or metal that is used in the constructed planes for the company is thoroughly tested and checked up before being used. The wood manufacturing area is located a little farther up in the main building. Here the framework of airplane wings is set up, ready to cover with fabric. Continuous inspection is made by fixtures at each step in the manufacturing process. In turn, the metal fixtures are moved for wiring, taping, bracing, veneering, and numerous other details.

Manufacture Routine

Wing sections are moved to severing areas, and from there to the special drying room in the main plant, provided for this purpose. The drying room has been especially designed with heated forced-air circulation so that the airplanes of top modern material be all surfaces. The engines, radars, elevators and wing pieces, when finished, are taken to racks where they are stored until actually fitted to the framework of the plane. In similar location, the landing gear be-

ing, wheels, shock absorbers, and other details of the undercarriage are assembled. This also applies to airplane landing gear, pistons, wing tip floats and equipment, and, as also, of course, these parts are moved to the final and attached.

At this point, the instrument board is fitted into the cockpit and the airplane which has now been covered with fabric,



Thomas H. Huff, president of Huff Daland & Co. Assuming place with C. T. Patton, chief engineer, who is seated in the stubby fuselage of the Pegasus L-13.

is ready for engine mounting. The engine, having been thoroughly tested, is installed in the plane. The wings and tail surfaces are assembled, flying and landing wires adjusted, control cables checked, and the radiator, elevator and elevator units tested. These final details attended to, a new aircraft is ready to take its first look at the world.



A general exterior view of the Huff Daland plant at Bristol, Pa., showing the office building.

The Huff Daland plant at Bristol is situated on the Delaware River, just a few miles below the point where Washington made the famous crossing. At the lower end of the flying field is a large yellow building where it is revealed that the "Father of our Country" spent a peaceful night at rest. The flying field is situated between the plant and the river, thus making the location ideal for airplane or land-plane operations.

Modern Equipment

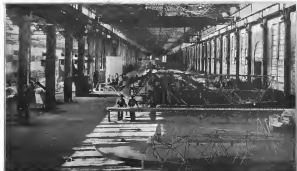
Modern equipment is the by-word at the Huff Daland plant. An up-to-date wood turning mill, dry kiln, storage warehouses, pumping system, and even, cutters, are located on the spacious grounds. A railroad spur runs directly through the plant, thus making reliable load shipments by rail and water shipments by the river to all parts of the world.

The officers of the company, all being individually and collectively responsible for the remarkable growth of the organization, are Thomas H. Huff, president; Elmer DeLand, vice president; C. T. Patton, chief engineer; Sidney Northing, treasurer; and Ervin E. Amick, auditor.

The types of planes which have been manufactured have been given individual names, as follows: The Proctor, three plane conventional, National Guard and service training plane; the Pelican, five purpose training plane which can be equipped with either wheel undercarriage or pontoons; the Pegasus, an L-13 military light bomber, powered with a Packard 500 hp. engine. This is the type which was the DeLand, News Air Transport Trophy during the 1935 air race at Mitchell Field; the latest product is known as the Cyclops. This is the H-13, single-engine heavy bomber.

The Anti-Spin Feature

One of the features of aircraft design for which the company is justly proud is the non-spin quality embodied in all their planes. In comparison with the ordinary feature is the stall-proof quality. The planes, instead of stalling and falling into a side-slip, merely drop the nose and increase the speed in a gentle glide. The most significant fact of the entire feature design is brought out by the report that no Huff Daland plane has ever killed either pilot or passenger during five years of successful operations.



An interior view of the Huff Daland plant at Bristol, Pa.

Experts Join William E. Arthur & Co.

J. E. Whitbeck, who, for the past six years, has been Superintendent of the Eastern Division (New York to Chicago) Air Mail Service, will, after Feb. 3, be associated with William E. Arthur & Company, Inc., 163 Park Avenue, New York City, who are specializing in designing and building leagues and preparing flying fields, and installing lighting equipment for night flying operations.

Mr. Whitbeck has designed and supervised the construction of all the Air Mail hangars from New York to Iowa City. He also supervised the preparation of the flying fields at these plants, and the emergency fields that are located between New York and Chicago and the lighting of the runway

between these points. He probably has had a wider experience in this work than any other man in American aviation.

The remodeling of Army Hqs. for air and sea use was developed under Mr. Whitbeck's supervision, as were the maintenance and operating methods which have gone into successful results in the Air Mail Service.

Mr. Whitbeck has also been received to the effect that Anshel Hark became identified with the firm of William E. Arthur & Company, Inc., as Associate Engineer, in which capacity he will act as one of the leading field design engineers. Under the arrangement effected with him, he will continue to operate as an independent engineer in the fields which are not covered by Wm. E. Arthur & Company, Inc.

Modern Hangars

Necessity for Careful Layout of Modern Airport Emphasized

By WILLIAM E. ARTHUR

THE MODERN type hangar is a very important factor in the economical and efficient operation of an airport or airport.

There are a great many details to be considered in the handling and servicing of planes. In the general arrangement of any landing field, provision should be made for hangars, shops, garages, fuel tanks, gasoline and oil storage, runways, field markings, water, telephone, electric power lines and, where necessary, field drainage. Plans should be prepared showing future as well as immediate installations, only in this way can the field be expected to provide a logical arrangement when fully developed. The additional cost of this forethought and consideration is negligible, while neglect might prove expensive later. The arrangement of buildings must be adapted to the local conditions and great consideration and study should be given to future expansion. The field, if properly laid out, can be developed in any arrangement as to be capable of any extension in the future of its capacity without making any of the original buildings or equipment.

Location of Buildings

Buildings should be ideally spaced in order to reduce the fire hazard. It requires so much space for runway purposes that there is nothing to be gained by crowding the buildings. If possible, all buildings should be on the side of the field closest to a road, so that it will not be necessary for automobiles or vehicles to cross the field to reach any of the buildings.

The hangars should be arranged so that the airplanes may be conveniently taken in or out. Where numerous private hangars should face south. This protects them somewhat from the cold north winds and helps to make conditions more comfortable for the mechanics in winter. The heavier layout should be sufficiently elastic to permit revision of several types of buildings without disturbing the general arrangement. Some effort should be made to anticipate the pos-

sible variation in future buildings. Thus, each trouble may be avoided and the space utilized to better advantage.

In the case of a commercial airport, the size and type of the planes to be operated and the possible future size of planes should be anticipated, if possible, before the size and type of hangars is decided upon. Thus an efficient hangar, without waste space, can be erected. No rule can be formulated for the relation between hangar, garage and shop space, etc., as this will vary with each property. In most civil fields, part of the hangars will be used for shop purposes. This, however, is not good practice and should be avoided whenever possible.

Sturdy Construction

The modern hangar should be substantially built to withstand heavy windstorms, etc. The strength of the hangar is of extreme importance as it is generally known that there has been considerable loss of planes and equipment in the past few years through the collapse of poorly designed buildings during heavy wind storms.

Proper ventilation and light should be subject to considerable study as the modern hangar must be used at night as well as by day. Heating is a separate problem in each case. The principal problem with heating is to provide a means of raising the temperature rapidly in the hangar after the doors have been opened in winter, so that very little time need be lost by mechanics working in the room. With the modern hangar, this has been given very thoroughly and is easily provided for.

Floors, when properly constructed, tend toward the efficient and economical handling of planes and equipment in the hangar. They should be constructed of concrete, properly finished and sloped with a narrow pitch toward the doors. This permits the floor to be finished with a base and water, keeping most of a waterway removed, also permitting the quick removal of planes in case of fire.

The opening and closing of the large doors on a hangar have been the cause of a great deal of trouble across a hangar, very often requiring the assistance of a motor truck or tractor and doing damage to the doors. With the latest type of hangar, the trouble has been eliminated by use of specially designed steel rolling doors operated easily, either by hand or motor, regardless of weather conditions.

With the modern type of hangar all these details have been carefully worked out and it is just as important to have an efficient and economical hangar as it is for a pilot to have a substantially constructed plane.

The Canadian Vickers Varuna Flying Boat

Owing to a typographical error in which the figure "27" was confused with the figure "28," the upper wing span of the Canadian Vickers Varuna flying boat, which was described in the Jan. 18 issue of AVIATION, was incorrectly stated. The upper wing of this plane is 55 ft. 3 in. in span, being slightly greater than the lower wing span which is 54 ft. 5½ in.

Air Mail Carrels Production

A letter to the editor was expressed, by the President's Aircraft Board, against government manufacture of aircraft in competition with the aircraft industry. Following this recommendation, the Air Mail immediately gave orders to curtail the manufacturing activities at its factory at Maywood. Forty employees have been dropped from the service and no more new airplanes will be built there.

While the Air Mail has been manufacturing its own airplanes for several years, the aircraft industry has never openly made any objection owing to the splendid results that were being accomplished and the fundamental condition of the Maywood plan of building the ship until commercial aircraft would become available. The prompt action of the Post Office Department in curtailing manufacturing is only another evidence of the fine spirit that has always actuated the conduct of this branch of all American scientific achievement.

Swiss Air Traffic Heavy

Traffic handled by Swiss air lines during the summer of 1925 was unusually heavy, as shown by figures issued by the Swiss Federal Air Office. Of 4,375 flights scheduled, 3,987 (91%) were effectively secured. A total of 2,687 trips were made without a delay of more than ½ hr. The total distance covered was 325,682 km. (202,444 miles) and the flying time 8,593 hr., representing an average speed of 113 km. p.h. (approximately 74 m.p.h.)

Traffic included 7,600 passengers, 55,000 kilograms of mail, and 75,800 kilograms of freight. The greatest number of passengers (1,769) were carried by the Zurich-Munich-Vienna line, the next most popular being the Zurich-Basel-St. Gallen line and the third, the Zurich-Basel-Bern line.

Frontal Area of the Radial Engine

COMPARISON OF FRONTAL RESISTANCE IN THE MODIFIED R.A. and the radial engine, and the modified radial engine, was made by E. E. S. (The Air Service Engineering Division, U.S. Army, Technical Service, 1925).

To obtain data from which to build a radial engine of maximum frontal area, the Air Service Engineering Division conducted a series of tests on the modified E 1 400 hp. modified radial engine. A test of the modified engine was conducted June 28, 1924, by the failure of the system, attributed to excessive intensity of side pressure. These planes had previously undergone a satisfactory subsequent test when used in the cylinder assembled on the single-cylinder test engine. In the test engine experiments a long connecting rod was used, in the modified radial engine the connecting rods were short. The present report is of a comparison between the piston mechanism of the modified radial engine and that of the test assembly fitted with the shortest possible connecting rod. The purpose was to determine the value of single-cylinder tests for radial engine pistons. From the results given, the conclusion is drawn that the conditions of piston side thrust of the modified radial engine cannot be duplicated in the single-cylinder test engine.



Photograph William E. Arthur and to the New York Journal of the U. S. Air Mail Service. This photograph was taken by William E. Arthur on the night of Tuesday Jan. 12, just as the final phase was taking of the Cleveland. The flood light just does not appear in the picture, being on the left very interesting photograph of hangar field, the New York Journal of the U. S. Air Mail Service. The fact that there are building lights in the room for the one appearing in the left hand picture of hangar, specially, illuminated while another, but the fact that an automobile in the right hand half of the photograph appears in its daily light, extreme left.

Pilots Views on Legislation

Continued from page 154

There was no opposition to the registry of planes and landing fields, except that most men seemed to think that a classification of planes and fields should be carried through, and the same thing applied to the licensing of pilots, particularly those who would fly transports (passenger or mailmen). There was a feeling, however, against excessive fines for either registry or licenses to the life pilot, or the pay pilot.

The greatest opposition was to inspection, and I would like to point out to those who are continuously printing about the gray line, who is supposed to be the worst kind of an irresponsible block, that on each day, flying the same one across freezing planes of ice-age (birds) that are not much good when they were new and now are a positive danger to the public is possible that the facts are all against their argument for the economy of Government inspection.

The number of accidents per number of miles flown and per number of passengers carried by these gray lines is small when compared to the number of crashes of all kinds in the Army and Navy air services, where inspection is supposed to be carried out with the greatest care by the most competent experts. Right here in Chicago we have had just recently no accidents to civilian crashes, their planes and passengers, but we have had quite a number of accidents impossible to the Army Air Service and Air Mail. Moreover, let me say that the most successful ship in the world, inspected by the most competent ground engineers, flown by the most competent pilot, may run out of gas in the wrong place (as they always seem to do), run into bad weather, etc., and all the inspection in the world will not prevent the large majority of crashes, which are due, as we are told, to what is politely called, pilot's error, or, in no other words, pilot had flying.

Why is it that there is no little civilian flying (non-commercial) in England, France and Canada? Is inspection

there such a wonderful means of insuring civilian aviation, there certainly ought to be more flying done in Canada, since the character of that country are about the same as those of our Middle West.

Let me call your attention also to the fact that the average civilian is gradually flying better airplanes. You know that a lot of old Jovians are being gradually replaced with Lusks, Travelers, Waco, Travel Air, etc., and it is only a question of time before one will be able to buy an awfully light three-place ship, for \$1500.00 or less. That type of plane will be sold and flown in large numbers, and will do more for the airplane business than a few orders for large transports, or a few "hoochie" planes.

The foreman of airplanes, the automobile, may be called an instrument of destruction or death, in the hands of some people, but that should not stand against legislation of any kind, and you can figure out for yourself how many automobiles we would have today if Waco-like or Travel Air-like had been improved on the automobile industry twenty years ago.

If my remarks will help in the slightest to bring about a better understanding of what is needed for commercial aviation, or rather, what is not needed at this time, I shall be very happy indeed. Meanwhile, I need to thank you for trying to get the individual owner pilot's viewpoint, and I would suggest that you put our map before you, if you can. That is, that you try to compare, with the help of some of your competent friends, the civilian facts of the United States, of which there are almost two thousand, I am told I feel certain that if you put and a letter along these lines to the first two here (and send it would meet with instant success). That kind of representation, thank I believe, help a lot to make America first in the air.

M. H. Brown,
Chicago, Ill.

New Engines Are Scintilla Equipped

The Scintilla Magneto Co., Inc., of Inday, N. Y., is equipping many of the new American military and commercial types of aircraft engines with Scintilla aircraft magnetos. Among these are engines produced by Curtiss, Wright, Packard, Beechcraft, Franklin, Grumman and Pratt & Whitney. Included in the Scintilla equipped engines are a comparatively large number of Curtiss D-22s recently ordered by the Army company for the United States Government.

One of the latest military engines for which Scintilla aircraft magnetos have been specified is the Wright Whittle 300 hp. air-cooled radial, installed in the Wright A-10 scout landing plane, a description of which appears on this issue. Also on the Scintilla magnetos which are Scintilla equipped at the 450 hp. Lawrence-Detroit, the engine with which Curtiss the P-10 is equipped has great light at 21,000 miles from Rome to Tokyo and return.

Ford Airplane Factory Burnt

The airplane experimental laboratory of the Ford Motor Company in Dearborn was destroyed by a fire of undetermined origin which broke out at 6 o'clock on the morning of Jan. 27. The loss, which is estimated at about \$200,000, included four practically completed all-metal airplanes intended for the Detroit Division service.

The laboratory was a one-story building, about 200 ft. long. The roof was of wood and the remaining walls were of steel beams, were often and necessary used in experimental work. Besides, about the assistance of the Detroit Fire Department. The completed airplanes were able to fly the longest about 200 ft. from the burning building, which burned after Ford planes.

Ford engineers had just planned to remodel the laboratory to hold out of expanding construction. It was built in the spring of 1924 to carry in experimental work with the all-metal plane evolved by William B. Stout.

One of the last planes destroyed in the conflagration was the new three-engine Ford plane which was to be used on the Detroit police flight academy. Thus, with the destruction of the plane the sale of all-American built plane in the proposed field is threatened.

Chicago-St. Paul-Minneapolis Air Mail Contract

Postmaster General Sweeney, on Jan. 13, awarded to Charles Deussen, of Chicago, the contract for carrying the United States Mail by air from Chicago to Saint Paul-Minneapolis, via Minneapolis and LaCrosse. Mr. Deussen will begin operation just as soon as he has equipped his landing field to increase 40% of the income derived in carrying the mail.

The contractor for this commercial air mail route has three members of the Lindbergh type of fly at once. Each will be capable of making 100 mi./hr.

The Rainy Lake Mapping Survey

In the review of MacCock Field activities, published in the Jan. 21 issue of *Aviation*, mention was made of the photographic survey made by MacCock Field pilots in connection with the Rainy Lake mapping survey. These flights were undertaken, as stated in cooperation with the U. S. Geological Survey, but the article failed to state that the Air Service participated in this project at the request of the Engineer Corps, in cooperation with the Interdepartmental Joint Commission.

These flights are but another example of the excellent work which has been done so far. Now carried out in the field of aerial survey by airplane by the Army Air Service with unquestioned success.

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AIRPORTS AND AIRWAYS

New England News

By Peter H. Adams

Dan Rockford's status in the Boston Transcript of Jan. 11, might properly have been called "A year at the Boston Airport" instead of "A week at the Boston Airport," for Dan gave a very complete and accurate summary of all the operations in the vicinity of Boston during the past year. The actual Air Service time for the year is 3,631 hr. 35 min., divided as follows:

General delivery	1,632 hr. 43 min.
Express mail delivery	121 hr. 32 min.
Regular Army delivery	107 hr. 35 min.

Anyone who has tried to keep track of flying time, even when arbitrarily on the job, will realize that it is nothing short of marvelous that Rockford, in addition to his duties as the Boston Transcript and his connections with other periodic activities, such as the Airline League, the Army and Navy Service Club, the Aviation Show, etc., has been able to find time to list and analyze the aeronautical operations for the past year in Boston and vicinity. He will long be remembered as the first historian of the Boston Airport and as such, we, we hope he, proud, as he deserves.

During the week of Jan. 8, Capt. H. B. Wells flew, with Capt. W. R. Ryan as a passenger, to Washington, D.C., in a 15 min. from the Boston Airport. This both the record which Jimmy Doolittle previously had, by five minutes.

The most conspicuous news of Boston or elsewhere is the arrival of the famous Cyril G. Caldwell, who is now a pilot for the Boston Airport Corporation and the Travel-Air planes. Cy, as is well known, is going to act as a traveling salesman of Travel-Air planes and has already landed on the job flying to Hartford and then continuing South. While we have always recognized Cy's ability and charm as an aviator, it was not until we discovered that he was a graduate of the Newton, Massachusetts, High School and lived in Boston until 1914, that we realized what Boston has named since that time and it is with great satisfaction that we welcome him back.

On Dec. 18, the Boston Chapter of the National Automobile Association held its first business of the season at the Boston City Club. Representatives of the various commercial aviation activities in Boston outlined their plans for the coming season. It is hoped that these businessmen will be a regular feature, and all people interested in aviation are cordially invited to attend. Full particulars can be obtained from Prof. Edward P. Warren, Massachusetts Building of Technology.

Airway aircraft at the Boston Airport flew 38 hr. 46 min. during the week ending Jan. 25. During the same time the National Guard flew over 38 hr. and the Navy, operating its Army, flew from the Boston Airport 4 hr. 17 min.

The Air Service Reserve Officers' Association held its meeting and election at the Boston Airport on Saturday, Jan.

DETROIT, Jan. 31, 1936

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(Signed) J. Dan Alexander, Capt. Air Service, U.S. G. 1935/36

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14, at which time Lt. Lieut. George Lutz was elected president, Leont. Frank Crowley, vice president, Lieut. Charles Clark, secretary, and Lieut. Robert L. O'Brien, treasurer. Mayor Ivo Loeppenstein addressed the meeting and spoke on the aviation past, present and the War Department which funds reserve pilots to 4 hr. flying per month.

Philadelphia News

By Trevor Lefebvre

Frank Mills, of the Executive School of Aviation, reports that he has sold five airplanes recently, during the summer, he instructed several students and had a very successful season. At the present time, with us as the time, business is very dull. However, aviation is continuing to grow, carrying on either selling or either continuing to sell and is planning to widen the scope of its activities this coming summer. At Pine Valley some more work has been done with night flying equipment and night flights were recently made by E. P. Lee, Chief Pilot of the National Air Transport, Inc., and Robert Haver, carrying on passengers, Paul Headman, general manager of the National Air Transport, Inc., C. G. Laddington, and Edward W. Jackson of the B. B. Corporation of America.

Work on the Municipal field is progressing and the planning and grading are now about 60% completed. It is expected that the field will be ready for use in April or May. As a second project the Aero Club of the City of Philadelphia is elected President, J. N. Taylor, Jr., Vice-President, C. J. Laddington, and Vice-President, William H. Shambaugh, Treasurer and Secretary, J. N. Taylor, Jr., Treasurer, Charles E. W. Williams, Director, Dr. Thomas S. Whelan, Joseph A. Stannett, B. B. Selzer, Jr., J. V. Duffin, Thomas B. Hooper, Robert P. Haver and C. D. Graham.

Detroit News

By Virgil Sisson

In the last six months of 1935, Detroit air progress has proceeded during a series of months, at it times spectacular, steps. The months of July, August and September brought to a few advertising companies, to aviation of private airports, while the demand for passenger flights, fuel service, student instruction, etc., showed a steady increase. It was the maturity opinion of the right local private airport operators about a year ago that the flying season of 1936 would keep all the airplanes busy, but it proved to be otherwise.

At the present time, Detroit's unexcelled real estate development has reached out to the fields previously used for commercial flying. As a consequence, we have a multiplicity of "Aviation Park subdivisions" recently opened. The Burns field and Stevens field, both on Southfield Road, were divided by the subdivision only last September but flying continued up to the actual point of cutting through the growth. The most field, which I have operated for two years, has already been sold out. Northfield field, which I also operate, will probably soon be sold out. The 800 sq. ft. lot operators, leaving the remainder, such as there is, for commercial flying for a short time.

A number of the airport operators turned their attention to the problem of plane and engine development shortly after the opening has appeared to be excessive and with no ready solution at hand. So, more and more attention was withdrawn from the flying field and placed in the workshop and the laboratory, with the result that, shortly, the same few plane with a job of Eddie Stinson's, incorporating many new features including wheel brakes, and the new five-place Hion plane, with 635 hp., will be built.

I have, furthermore, been able to secure a temporary arrangement with the Packard Motor Car Co. for the commercial use of Packard Aviation field, and, it hoped for conditions seemed to be complete, anticipate a very active season there during the coming season. With practically all the commercial airfields around Detroit subdivided, Packard field could very well assume its important position of three years ago, when an average of 12 planes could soon approach.



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So, the firm here have taken full cognizance of the situation. They have placed their year's operating loss over in the column of "deficiency," and forced ahead with their extended idea of vision and engineering development. They are backed by Detroit's most influential man, most of whom are deeply un-mad and belong to either the flying club or the aviation society.

Chicago, Ill.
By O. K. Kline

With the beginning of 1926 Chicago's greater north side has been of five recognized airports. All are outside of the city limits, but, with the steady expansion of the city, aviation better could be expected. In fact, it will only be a few years until these fields too will have to yield to the surrounding real estate.

The old Morton Grove field on Dempster Street, just a few miles west of Evanston, is still in operation, but will probably go out of existence in the spring when sidewalks and sewers will be laid through it. The field has already been subdivided and sold, but good landed real estate now situated in leaving the status until spring.

Almost due west of Morton Grove on River Road and Touhy Avenue is the North Airplane Company's new field. It occupies about 60 acres with two clusters of trees that provide excellent shelter for the planes. There is a gas station and lunch room at the intersection of the roads, where a telephone is also available. There is a road some on the outside of the lunch room and an entrance near south, both welcome to the firm who serve weather sets on.

Not far south of this field, on River Road, is the Solinger Park Airport, operated by Stanley Wallace. This field is not as large, but has fairly good approaches. There is a shelter at the field, but no telephone.

Several blocks south from there, and a short distance East of the Des Plaines River, on Irving Park Road, is the Chicago Flying Club field, operated by the Western Airplane Corp. This field occupies a large field belonging to the Chrysler Motor Company. There is a shelter here also.

Northwest of the city on Milwaukee Avenue just South of Whiting, Ray Galt has established a field from which he flies a five-place Standard all last summer. The field occupies a large lot with good approaches, according to one direction. Good air traffic and telephone are available.

All of the above fields are enclosed by various patterns, providing plenty of open country to land in all directions. They are located almost due north from the Air Mail field, which also is located close to the Des Plaines River. The fields can be reached by automobile, connected with Chicago street car lines.

Station Island, N. Y.

The Schenck Airways, operating from Green Ridge, Station Island, N.Y., changed their name on Jan. 8, 1926, and are now known as the Atlantic Airways Inc.

George Schenck is president of the new company, Mrs. Winifred is treasurer and Mr. Van de Wyden is the secretary. Mr. Winifred is also pilot for the season, having had some ten years experience with airplanes.

The company did not get started until the latter part of July last summer but after that they did a profitable business, working until Dec. 31, at which time the bay froze up and the flying boats had to be hauled out of the water. Some 600 passengers were carried during the season. Four state-of-the-art airplanes and a considerable amount of other work brought the total flying hours up to 300. The company operates two HSEs and one K8 Sea Gull. After paying for all the expenses, the company showed enough net profit to convert the two HSEs and to thoroughly overhaul the

Sea Gull, in order to be ready for operation again by April 1.

George Schenck, president of the company, is designing a monoplane flying boat with a metal bottom. The boat, which will be a cabin type, will be powered with two Wright Whirlwind engines. The boat will be able to seat six and the pilot and will have a speed of 130 m.p.h.

Avon Park, Fla.

Avon Park is going ahead with the active development of an airport. Otto Hurdin, pilot and mechanic, in association with Gene Schenck and Payne Schenck, is planning to make the 40 acres between the two Avon Park fields the most complete airport in the state, with hangars for planes and equipment, machine shops, a gas station and other amenities including provisions for day and night service.

Pilot Francis Fisher is supervising the construction of the field and a hangar to take a 47 ft. open plane is almost finished. Another hangar for a 30 ft. plane is almost ready and another for a similar machine is to be erected as soon as the two now being built are finished.

The building for the machine shops is up and tools are being brought in. While everything done will permit the men to not even the largest planes, the shops will, into the shop.

The shop will be in charge of Jack Hurdin.

An army floor, with more than 2,000 hours in use, will, in the new forms as well as the field is complete, and Hurdin plans to open a school of instruction.

Air Probe Cost \$11,963

President Coolidge has asked the House for \$11,963 to defray expenses of the Mayhew board which recently investigated the current situation.

French Airman Plans Flight Over Everest

The French aviator, M. Collin, who holds the world record for altitude, will attempt one of the most daring feats in the history of aviation when he takes off next March in an effort to fly over Mount Everest.

M. Collin does not intend to descend upon the summit of Everest, which is 8,830 meters above sea level, but he will descend himself with taking photographs and dropping a French flag. A moving picture operator and a companion will accompany the aviator in a specially built plane of 500 hp.

The difficulties lie in the fact that a heavy load of fuel, food and equipment must be carried for the three men, in order that the machine may stay in the air long enough to reach the top and return to a base in India.

The lack of landing places—it is said that there are only two or three—in the most dangerous factor.

Collins, the English aviator, who flew across the base of Everest, and the only way to reach the top would be by means of an airplane. The English expedition, headed by General Dyer, failed last year to scale the mountain to foot, after making an altitude of 8,330 meters.

United States Air Forces

U. S. ARMY AIR SERVICE

Model Airways Notes

Five new meteorological stations for the Model Airways were authorized by the Adjutant General under date of Dec.



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PUBLISHER'S NEWS LETTER

Cy Caldwell "flew" into the office this week with something on his mind. He really got up and checked matter was strangely enough. He grabbed a typewriter by the throat and shook it until it emitted a nervous prelude. The machine expected that it would produce another business masterpiece and it was as surprised as everyone else to read the message that Cy wanted to read to all commercial pilots. His request for information, which appears below, should secure a reply from every pilot that reads AVIATION. The idea of pilotless planes has been given the consideration they deserve. The reason for this is that they have an inherent impression. AVIATION has tried to watch for anything that might hamper the commercial aviation and pilot. But it is difficult to express your points of view when they are written to give them. Read Cy's letter below and act on his suggestion.

These pilots who read the Publisher's News Letter in the paper last week were probably amazed at the elaborate machinery evolved for the regulation of aviation in England. As might be supposed, the effect of that regulation has been to stifle at birth practically all commercial aviation in England, except that of the air line, which is not as yet, properly speaking, commercial aviation at all. The air line is mostly investment expenditure, managed by civilians.

Leaving them out of the commercial picture, therefore, we may assume that is left in England. And what remains is a pretty picture of some fields and blue sky without a commercial airplane in it. There never were more than a few, and those few have been passed out by the government in control. To-day men English sportsmen own and fly planes for pleasure, but they are hampered by needless official regulations that they do so only under difficulties that we can hardly imagine.

Arrival Service, as we know it, does not exist in any country other than the United States, when it has grown up solely because it was unhampered by regulations. Sufficient proof of that statement lies in the fact that in countries having regulations, arrival service has died at birth.

These statements are so easy to set forth as an argument against regulations, which is as common to come as it is certain that the men who set them. Every human activity is subject to some sort of governmental control. The American aviation has escaped this control so long, it merely its good fortune, and a fortune that cannot last. With the thousands of the ownership, and the motor vehicles, aviation will eventually be controlled and regulated. We commercial pilots may as well make up our minds to accept that as inevitable.

But we need not necessarily accept complacently, regulations as stupid and hampering as those laid out upon arrival service. Aviation is a business and it is a business that is growing. And I believe to add, but I am misinformed, that I offer no criticism of any impending legislation.

What is immediately in view is reasonable enough but there is no guarantee that there will not be additions and changes from time to time, some of which may completely hamstring us if such is the case. We have no means of making our objections or making up a difference. As pilots and operators of commercial airplanes we are going about our flying business with no thought of what some people who know little or nothing about us, are going to do to us. We are going to be regulated, and the operators may be punished. It will be especially painful and perhaps fatal if the doctors know nothing of our life, and hence operate in the wrong place, and with the wrong instruments. It will be small consolation to learn that the operation was successful, but that the patient died.

And the death of commercial aviation may be expected if such drastic and rapid legislation is proposed in England, for example, upon us here. It is well to remember that the path of least travel for this selling to secure regulation in this country, is to follow rules and regulations already in use in other countries. And if that path is followed without very variation, the almost certain death of commercial aviation in America may be predicted without the shadow of a doubt.

Like the frog in Asquith's fable, we pilots and operators have been asking for something to save our use and regulate us. In the case of the frog, the gods said a stick to rule them, which worked very well, except that when they fell on top of the frog. Let us take steps to assure ourselves that we will not be drowned.

How can we do that? I ask each and every one of you pilots and operators who read this letter, to write to me, in care of AVIATION, giving your views on the matter. In that way, we may be able to secure at some moment of opinion of the men who will be most vitally affected by our legislation; the men whose bread and meat depends upon their ability to fly commercially without too many hampering restrictions.

What can we do? We have no association or organized body to speak for us. In fact, do we know what we want? And what is more as pertinent, what do we want? As pilot and operator, the men to be helped or hindered by rules, shall we form an association of our own to make our opinions—of we have any—shall we join some other organization, endeavoring to attain our identity as pilots and operators?

Every pilot should jump at the chance to express his views. If you will write me, AVIATION will pass your opinion where they will do the most good. This, in effect, is a test case. It may have a very definite effect on our future. So, all I can do is to ask you again to write giving your best suggestions.

Yours for the pilot's interest.

Cy

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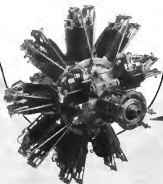
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